

1. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-4 - 9x \leq \frac{-51x - 3}{8} < 3 - 7x$$

- A. $(-\infty, a] \cup (b, \infty)$, where $a \in [-3.75, -0.75]$ and $b \in [1.5, 7.5]$
B. $[a, b)$, where $a \in [-3, -1.2]$ and $b \in [-2.25, 10.5]$
C. $(a, b]$, where $a \in [-2.25, -0.75]$ and $b \in [3, 11.25]$
D. $(-\infty, a) \cup [b, \infty)$, where $a \in [-5.25, -0.75]$ and $b \in [3, 8.25]$
E. None of the above.
-

2. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{6}{8} - \frac{5}{9}x \geq \frac{-3}{5}x + \frac{10}{7}$$

- A. $[a, \infty)$, where $a \in [-16.5, -14.25]$
B. $(-\infty, a]$, where $a \in [11.25, 15.75]$
C. $(-\infty, a]$, where $a \in [-17.25, -13.5]$
D. $[a, \infty)$, where $a \in [14.25, 16.5]$
E. None of the above.
-

3. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-7x + 9 \leq 5x + 7$$

- A. $[a, \infty)$, where $a \in [-0.09, 0.29]$
B. $(-\infty, a]$, where $a \in [-0.24, 0.06]$
C. $[a, \infty)$, where $a \in [-0.18, 0.1]$
D. $(-\infty, a]$, where $a \in [-0.15, 0.75]$

E. None of the above.

4. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-5x - 9 \leq 6x + 5$$

- A. $[a, \infty)$, where $a \in [0.27, 3.27]$
 - B. $(-\infty, a]$, where $a \in [-2.4, -1.1]$
 - C. $[a, \infty)$, where $a \in [-4.27, 0.73]$
 - D. $(-\infty, a]$, where $a \in [-1.2, 1.8]$
 - E. None of the above.
-

5. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

Less than 6 units from the number 7.

- A. $(-\infty, 1] \cup [13, \infty)$
 - B. $(1, 13)$
 - C. $[1, 13]$
 - D. $(-\infty, 1) \cup (13, \infty)$
 - E. None of the above
-

6. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-3 - 9x \leq \frac{-34x + 9}{4} < 5 - 9x$$

- A. $[a, b)$, where $a \in [6.75, 12]$ and $b \in [-6, -2.25]$
- B. $(-\infty, a] \cup (b, \infty)$, where $a \in [8.25, 15]$ and $b \in [-11.25, -4.5]$

- C. $(-\infty, a) \cup [b, \infty)$, where $a \in [3.75, 15.75]$ and $b \in [-6, -2.25]$
- D. $(a, b]$, where $a \in [9, 11.25]$ and $b \in [-6.75, -3]$
- E. None of the above.

-
7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-5 + 8x > 9x \text{ or } 9 + 8x < 11x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5.47, -4.35]$ and $b \in [1.5, 4.5]$
- B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.12, -2.77]$ and $b \in [4.5, 8.25]$
- C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-4.5, -2.25]$ and $b \in [4.5, 7.5]$
- D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-7.5, -3.75]$ and $b \in [0.75, 3.75]$
- E. $(-\infty, \infty)$

-
8. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-6 + 8x > 9x \text{ or } 7 + 3x < 5x$$

- A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-5.17, -0.45]$ and $b \in [5.25, 6.75]$
- B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6.52, -4.27]$ and $b \in [1.5, 4.5]$
- C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-7.95, -5.55]$ and $b \in [2.25, 4.5]$
- D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-3.67, -0.3]$ and $b \in [4.5, 9]$
- E. $(-\infty, \infty)$

-
9. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-5}{9} - \frac{4}{8}x \leq \frac{8}{7}x + \frac{8}{6}$$

- A. $[a, \infty)$, where $a \in [1.05, 1.95]$
 - B. $[a, \infty)$, where $a \in [-2.4, -0.97]$
 - C. $(-\infty, a]$, where $a \in [-2.62, -0.07]$
 - D. $(-\infty, a]$, where $a \in [-0.82, 1.27]$
 - E. None of the above.
-

10. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

Less than 8 units from the number -1 .

- A. $(-\infty, -9) \cup (7, \infty)$
 - B. $(-\infty, -9] \cup [7, \infty)$
 - C. $(-9, 7)$
 - D. $[-9, 7]$
 - E. None of the above
-